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(54) Title: PROCESS FOR THE CARBONYLATION OF ETHYLENICALLY UNSATURATED COMPOUNDS

(57) Abstract: Process for the carbonylation of ethylenically unsaturated compounds having 3 or more carbon atoms by reaction with carbon monoxide and an hydroxyl group containing compound in the presence of a catalyst system. The catalyst system includes (a) a source of palladium cations; (b) a bidentate diphosphine of formula (I): $R^1R^2 > P - R^3 - R - R^4 - P < R^5R^6$, wherein P represents a phosphorus atom; R^1 , R^2 , R^5 and R^6 independently represent the same or different optionally substituted organic groups containing a tertiary carbon atom through which the group is linked to the phosphorus atom; R^3 and R^4 independently represent optionally substituted alkylene groups and R represents an optionally substituted aromatic group; (c) a source of anions derived from an acid having a pKa less than 3, as measured at 18 °C in an aqueous solution. The process is carried out in the presence of an aprotic solvent.



WO 01/68583 A3

INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C07C67/38 C07C69/24 C07C69/44 B01J31/24 C07C51/14

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 C07C B01J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

BEILSTEIN Data, CHEM ABS Data, EPO-Internal, PAJ, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 227 160 A (SHELL INT RESEARCH) 1 July 1987 (1987-07-01) column 1, line 22 - column 4, line 16 column 5, line 22 - line 41 examples 1,3,8,9	1-10
A	EP 0 662 467 A (DSM NV ;DU PONT (US)) 12 July 1995 (1995-07-12) the whole document	1
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☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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